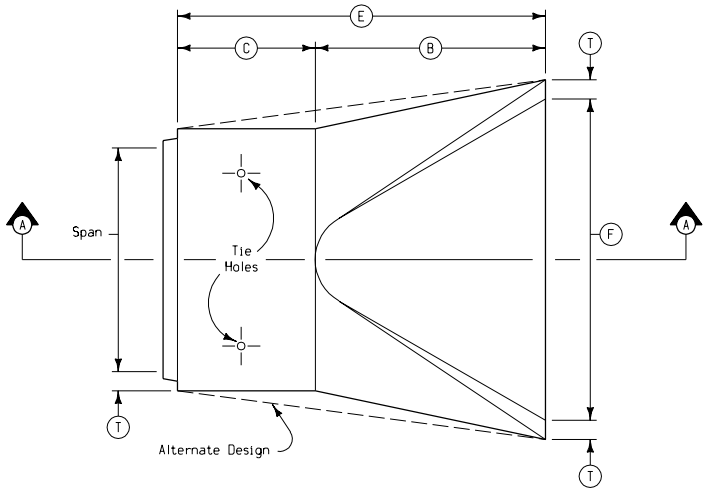
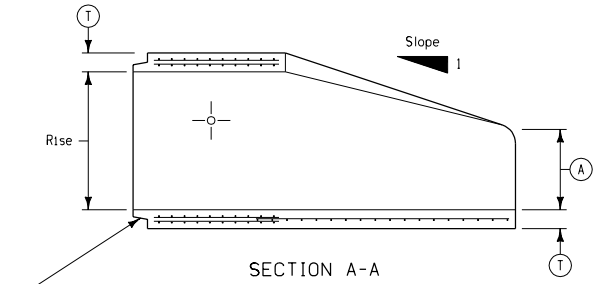
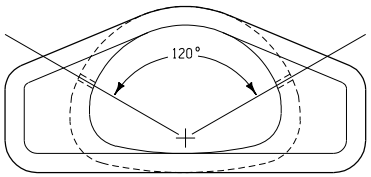


PLAN VIEW



SECTION A-A



END VIEW

Tongue end on inlet end section. ①
Groove end on outlet end section.
(Inlet end section shown.)

GENERAL NOTES:

Details on this sheet indicate typical requirements for concrete arch aprons. Reinforced concrete arch pipe shall conform to the requirements of AASHTO M206 for Reinforced Concrete Arch Culvert Storm Drain and Sewer Pipe. Design of the barrel portion of the apron shall conform to, or exceed, the requirements for class III (2000 D) pipe. Where class II (1500 D) pipe is specified, aprons meeting the requirements for class II (1500 D) pipe may be furnished. Reinforcement of the flared portion of the apron shall be as indicated in AASHTO M206 or as otherwise approved by the Engineer.

Materials and methods of construction shall be in accordance with current Standard and Supplemental Specifications.

Fabrication of aprons shall conform to requirements of current specifications for "Concrete Pipe Culverts". Dimension "E" shown is minimum and shall be considered the design length. Any difference between the actual length of concrete apron installed and the length indicated hereon shall be appropriately adjusted for the length of concrete culvert pipe furnished.

Tie bolts and bolt holes are necessary only when specifically required in detail project plans.

Structural concrete used for concrete aprons shall contain air entrainment in accordance with Article 2403.03 Paragraph B of the Standard and Supplemental Specifications.

Alternate designs for concrete aprons may be submitted for approval. Welded wire fabric shall meet the requirements of AASHTO M55.

Refer to appropriate other Standard Road Plans as well as project plans for additional details of individual culvert installations.

Price bid for "Concrete Arch Aprons" of the size specified shall be considered full compensation for fabrication and installation of concrete aprons as detailed hereon.

① Dimensions for tongue and groove connections shall be as indicated on Standard Road Plan RF-41.

NOMINAL DIMENSIONS SPAN X RISE	EQUIVALENT DIA.	WEIGHT PER SECTION	SPAN	RISE	SLOPE	Approximate Dimensions Inches					
Inches	Inches	Lbs.	Inches	Inches		T	A	B	C	E	F
22 X 14	18	1100	22	13½	3:1	2½	7	27	45	72	36
29 X 18	24	1760	28½	18	3:1	3½	8½	39	33	72	48
37 X 23	30	3300	36¼	22½	3:1	4	9½	50	46	96	60
44 X 27	36	4350	43¾	26⅝	3:1	4½	11⅛	60	36	96	72
52 X 32	42	5250	51⅛	31⅝	3:1	4½	15⅜	60	36	96	78
59 X 36	48	6400	58½	36	3:1	5	21	60	36	96	84
65 X 40	54	7850	65	40	3:1	5½	25½	60	36	96	90
73 X 45	60	9500	73	45	3:1	6	31	60	36	96	96
88 X 54	72	13550	88	54	2:1	7	31	60	39	99	120
102 X 62	84	17950	102	62	2:1	8	28½	83	19	102	144

Iowa Department of Transportation
Project Development Division

STANDARD ROAD PLAN **RF-42**

REVISION: Revise apron dimension "A" for 102"x62" size.

REVISION NO. 2

David R. Smith 03-14-97
APPROVED BY DESIGN METHODS ENGINEER

REVISION DATE 07-15-97

CONCRETE ARCH APRONS